



National Transportation Safety Board

Keeping Our Minds and Eyes on the Road (and hands on the steering wheel, also)

Robert L. Sumwalt

Presentation to the National Road to Zero Coalition

October 13, 2017



- NTSB is an independent federal agency
 - investigate transportation accidents and crashes
 - determine probable cause
 - issue safety recommendations



The Board



Bella Dinh-Zarr



Chris Hart



Robert Sumwalt



Earl Weener





g Transportation Safer
RDAY ★ TODAY ★ TOMORROW



Photo: California Highway Patrol

NTSB News

The National Transportation Safety Board will meet on October 31, 2017 to determine the probable cause of a motorcoach collision with a truck-tractor combination vehicle that occurred on Interstate Highway 10 near Palm Springs, California, on October 23, 2016.

[Read More](#)

1 2 3 11 12



Accident Dockets



Safety Recommendations



Aviation Accident Database



Data & Stats



Training Center



NTSB

An Independent
United States Federal
Government Agency

Charged with determining the probable cause of transportation accidents and promoting transportation safety, and assisting victims of transportation accidents and their families.

[Read more >](#)

NTSB Response Operations Center

To report an incident/accident or if you are a public safety agency, please call 1-844-373-9922 or 202-314-6290 to speak to a Watch Officer at the NTSB Response Operations Center (ROC) in Washington, DC (24/7).

Other Ways to Contact NTSB



Contact NTSB



Submit a TCAS Notification



FOIA Request



Report an Aviation Accident



Eyewitness Report



Contact Disaster Assistance

News @ NTSB



Tweets by @NTSB

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NTSB
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We honor all Hispanic Americans who contribute to and enjoy the safety of all modes of transportation.

[#NationalHispanicHeritageMonth](#)





Presentation Outline

- Discussion of two recent Board products
 - 2016 Tesla crash
 - Speeding study
- NTSB Most Wanted List



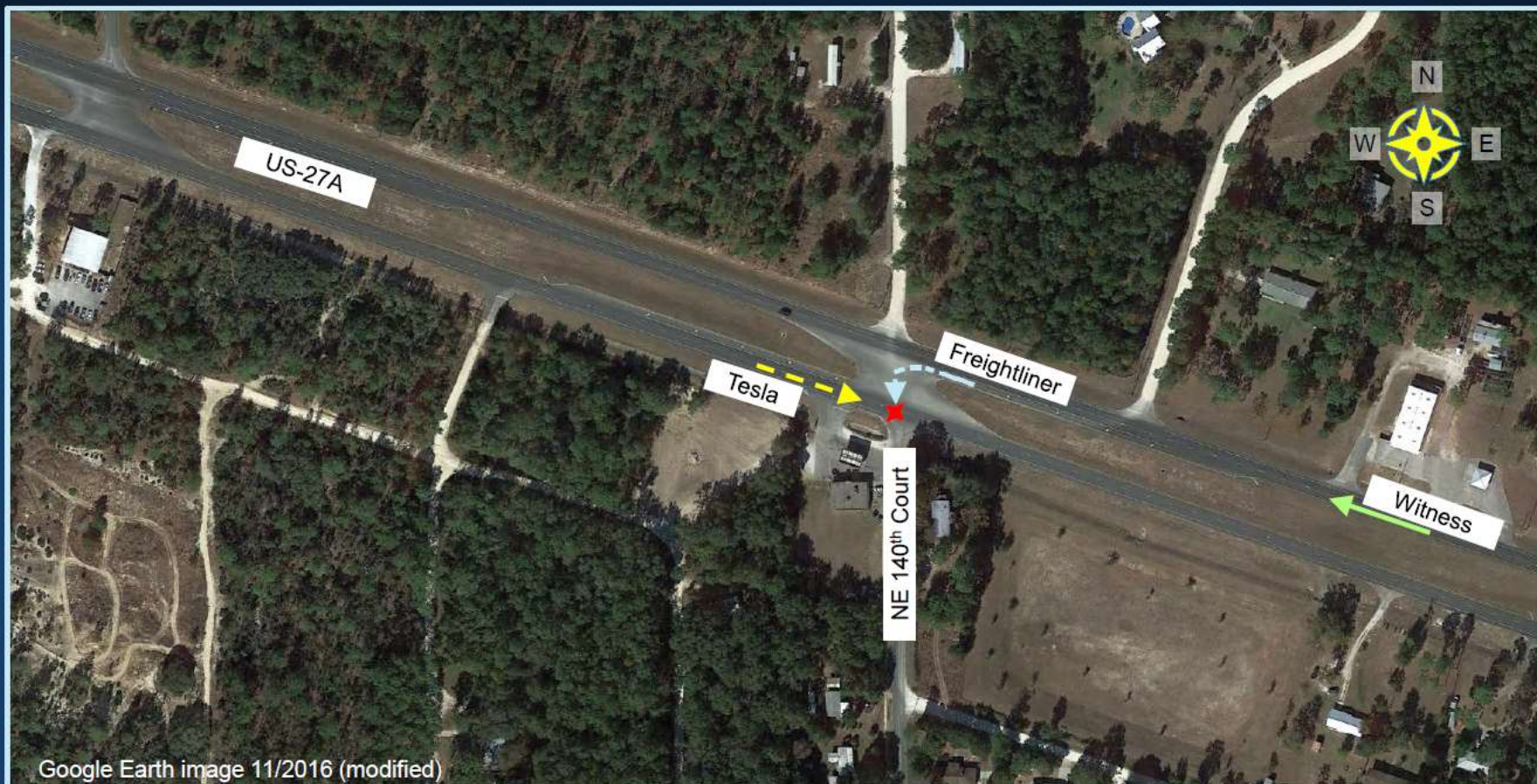
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Partially Automated Vehicle Crash Near Williston, Florida



May 7, 2016



Highway Eastbound (Tesla)



Highway Westbound (Truck)

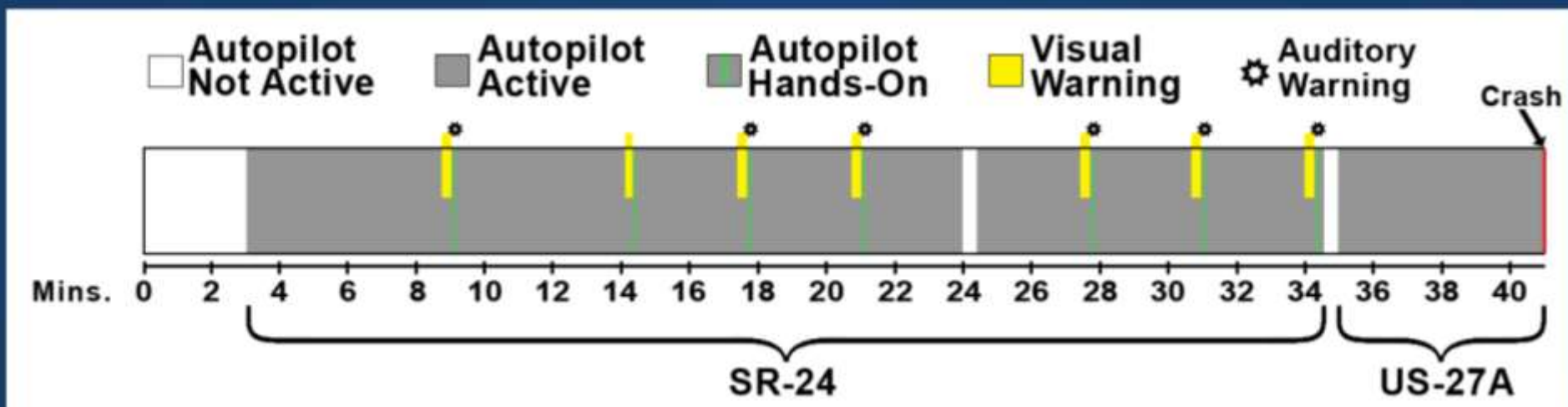


Vehicles



Driver Engagement During the Crash Trip

- The crash trip lasted 41 minutes
 - Autopilot was engaged for 37 minutes




- Hands on steering wheel for a total of 25 seconds.
- Lack of responsiveness indicates overreliance on automation



NTSB  **Making Transportation Safer**
YESTERDAY ★ TODAY ★ TOMORROW

Conflicting information?

 **Warning:** Autosteer is intended for use only on highways and limited-access roads with a fully attentive driver. When using Autosteer, hold the steering wheel and be mindful of road conditions and surrounding traffic. Do not use Autosteer on city streets or in areas where bicyclists or pedestrians may be present. Never depend on Autosteer to determine an appropriate driving path. Always be prepared to take immediate action. Failure to follow these instructions could cause serious property damage, injury or death.

The autosteer was not intended for use on this roadway type, but the system allowed it to be used on these roads.

Restricted Roads

Autosteer is intended for use on freeways and highways where access is limited by entry and exit ramps. When using Autosteer on residential roads, a road without a center divider, or a road where access is not limited, Autosteer limits the driving speed. The maximum driving speed is calculated based on the detected speed limit plus 5 mph (10 km/h). In situations where the speed limit can not be detected, speed is limited to 45 mph (70 km/h). When Autosteer is engaged on a restricted road, it reduces the speed to be within these limits, even if the set cruising speed is higher. The instrument panel displays a message indicating that you are driving on a restricted road. You can manually accelerate to exceed the limited speed, but when you release the accelerator pedal, Autosteer slows Model S to the limited speed. When you leave the restricted road, or disengage Autosteer by using the steering wheel, Model S resumes cruising at the set speed.

Probable cause

- Truck driver's failure to yield right of way, combined with...
- The car driver's inattention due to overreliance on vehicle automation, which resulted in the car driver's lack of reaction to the presence of the truck.
- Contributing to the car driver's overreliance on the vehicle automation was its operational design, which permitted his prolonged disengagement from the driving task and his use of the automation in ways inconsistent with guidance and warnings from the manufacturer.

Recommendations

- Manufacturers: A better way to measure driver engagement than torque on the steering wheel
- Manufacturers: only allow use of vehicle control systems in conditions they're designed for
- NHTSA (reiterated): Develop standards for/require connected vehicle technology
- DOT/NHTSA: Develop parameters/collect data for use by investigators



- From 2005 – 2014, speeding related crashes accounted for over 112,000 fatalities.
- That's around 31% of all traffic fatalities.

Speeding increases crash risk

- Increased likelihood of being involved in a crash
- Increased severity of injuries by all road users





- Setting speed limits to match 85th percentile speed can result in unintended consequences.
 - Can lead to higher operating speeds
- No strong evidence that the 85th percentile speed equates to the speed with the lowest crash involvement rate

Automatic Speed Enforcement (ASE)



- ASE is an effective countermeasure to reducing speeding related crashes, fatalities, and injuries.
 - Used only in 14 states and D.C.
 - Many states prohibit it

19 safety recommendations

- DOT (1)
- NHTSA (8)
- FHWA (4)
- GHSA (1)
- IACP (1)
- National Sheriff's Association (1)
- Various states (3)



Presentation Outline

- Discussion of two recent Board products
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 - Speeding study
- NTSB Most Wanted List



- Eliminate Distractions
- Require Medical Fitness
- Expand Recorders Use to Enhance Safety
- Reduce Fatigue-Related Accidents
- End Alcohol and Other Drug Impairment
- Improve Rail Transit Safety Oversight
- Ensure the Safe Shipment of Hazardous Materials
- Increase Implementation of Collision Avoidance Technologies
- Strengthen Occupant Protection
- Prevent Loss of Control In Flight In General Aviation

Roundtable Discussions (2015 & 2017)



Act to End Deadly Distractions

2ND ROUNDTABLE ON DISTRACTIONS

PRESENTED BY THE
National Transportation Safety Board
AND **StopDistractions.org**



WEDNESDAY, APRIL 26, 2017

9:00AM-4:30PM | WASHINGTON, DC
NTSB BOARDROOM & CONFERENCE CENTER

FACILITATED BY NTSB BOARD MEMBER
The Honorable Robert Sumwalt

AND **StopDistractions.org**
National Transportation Safety Board
PRESENTED BY THE

2ND ROUNDTABLE ON DISTRACTIONS

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NTSB 2017–2018

MWL

MOST WANTED LIST

OF TRANSPORTATION
SAFETY IMPROVEMENTS

*Increase implementation of
collision avoidance technologies*

NTSB

The Use of Forward Collision Avoidance Systems to Prevent
and Mitigate Rear-End Crashes



Special Investigation Report

NTSB/SIR-15/01
PB2015-104088



2015



REACHING ZERO CRASHES

6-5-4-3-2-1-0

A DIALOGUE ON THE ROLE OF
ADVANCED DRIVER ASSISTANCE SYSTEMS

OCTOBER 27 | 2016



National
Transportation
Safety Board

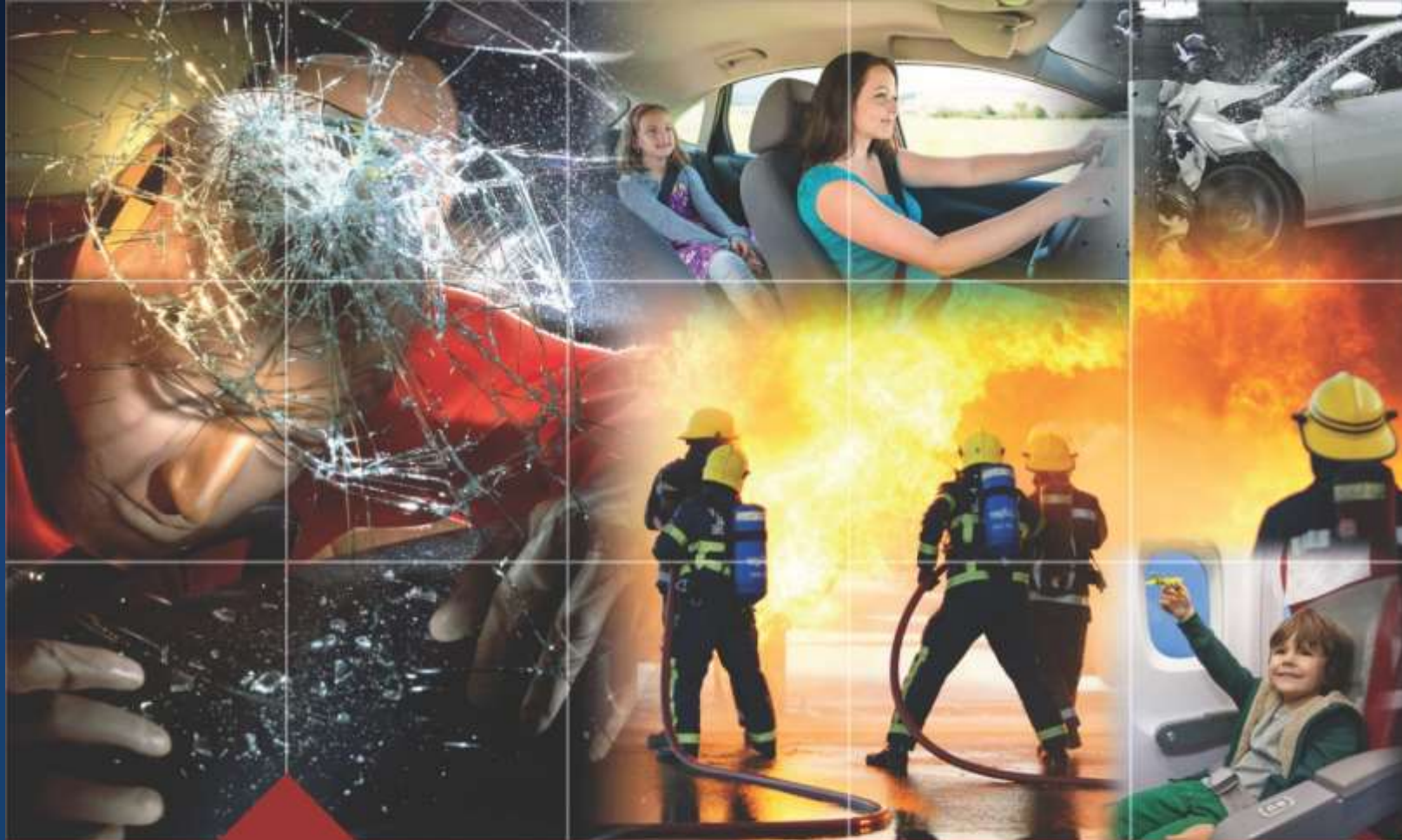


2016



STRATEGIES FOR INCREASING
COMMERCIAL VEHICLE ADOPTION

2017



NTSB 2017–2018

MWL

MOST WANTED LIST

OF TRANSPORTATION
SAFETY IMPROVEMENTS

Strengthen occupant protection

NTSB

Restraint Use on Limos/Buses/Motorcoaches



Cranbury, NJ



Orland, CA

Restraint Use on Limos/Buses/Motorcoaches



Davis, OK

Good News: Lap-Shoulder Belts in All New
Buses > 26,000 lbs.



NTSB 2017-2018

MWL

MOST WANTED LIST

OF TRANSPORTATION
SAFETY IMPROVEMENTS

Reduce fatigue-related accidents

NTSB



NATIONAL TRANSPORTATION SAFETY BOARD

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Photo: California Highway Patrol

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NTSB 2017-2018

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HIGHEST PRIORITY LIST

OF TRANSPORTATION
SAFETY IMPROVEMENTS

*End alcohol and other drug
impairment in transportation*

NTSB

